PCN Number:	20241218004.1	PCN Date:	December 19, 2024
Title:	Qualification of RFAB as an additional Fab site, Die Revision and additional Assembly Site (MLA) options for select devices		
Customer Contact:	Change Management Team	Dept:	Quality Services
Proposed 1st Ship Date:	March 19, 2025	Sample requests accepted until:	January 18, 2025*

*Sample requests received after January 18, 2025 will not be supported.

Change Type:

☒	Assembly Site	☒	Design	☐	Wafer Bump Material
☒	Assembly Process	☒	Data Sheet	☐	Wafer Bump Process
☒	Assembly Materials	☐	Part number change	☒	Wafer Fab Site
☐	Mechanical Specification	☐	Test Site	☒	Wafer Fab Material
☒	Packing/Shipping/Labeling	☐	Test Process	☒	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of its RFAB fabrication facility as an additional Wafer Fab option in addition to Assembly Site (MLA) options for the devices listed below.

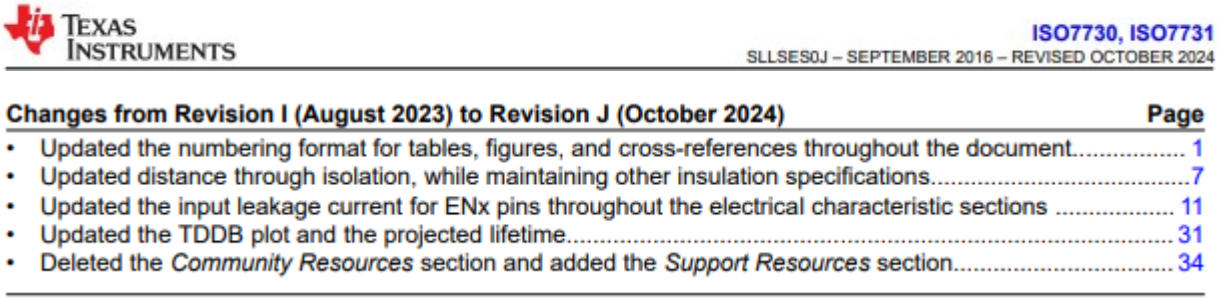
Current Fab Site			Additional Fab site		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab site**	**Process**	**Wafer Diameter**
MIHO8/DMOS5	LBC8LVISO.1	200mm	RFAB	LBC8LVISO.2	300mm

The die was also changed as a result of the process change to accommodate the change in Fab technology

Construction differences are as follows:

	Current Assembly site	Additional Assembly site
	TAI	MLA
Bond wire composition, diameter	Au, 0.96 mil	Cu, 0.8 mil
Mold Compound	4221499	4221499

The datasheets will be changing as a result of the above mentioned changes. The datasheet change details can be reviewed in the datasheet revision history. The links to the revised datasheets are available in the table below.



TEXAS INSTRUMENTS

ISO7730, ISO7731

SLLSES0J – SEPTEMBER 2016 – REVISED OCTOBER 2024

Changes from Revision I (August 2023) to Revision J (October 2024) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Updated distance through isolation, while maintaining other insulation specifications..... 7
- Updated the input leakage current for ENx pins throughout the electrical characteristic sections 11
- Updated the TDDB plot and the projected lifetime..... 31
- Deleted the *Community Resources* section and added the *Support Resources* section..... 34

Changes from Revision H (March 2023) to Revision I (August 2023) **Page**

- Updated Thermal Characteristics, Safety Limiting Values, and Thermal Derating Curves to provide more accurate system-level thermal calculations.....10
- Updated electrical and switching characteristics to match device performance.....17

Changes from Revision I (January 2024) to Revision J (October 2024) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout document.....2
- Updated distance through isolation, while maintaining other insulation specifications.....9
- Updated the input leakage current for ENx pins throughout the electrical characteristic sections.....13
- Updated the TDDB plot and the projected lifetime.....33

Changes from Revision H (March 2023) to Revision I (January 2024) **Page**

- Updated Features list.....1
- Updated numbering format for tables, figures and cross-references throughout document.....2
- Updated Thermal Characteristics, Safety Limiting Values, and Thermal Derating Curves to provide more accurate system-level thermal calculations.....6
- Updated electrical and switching characteristics to match device performance.....6

Changes from Revision G (June 2023) to Revision H (January 2024) **Page**

- Updated numbering format for tables, figures and cross-references throughout document.....1
- Updated Thermal Characteristics, Safety Limiting Values, and Thermal Derating Curves to provide more accurate system-level thermal calculations.....6
- Updated electrical and switching characteristics to match device performance.....6

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet
ISO773x	SLLSES0H	**SLLSES0J**	http://www.ti.com/product/ISO7730
ISO774x	SLLSEP4H	**SLLSEP4J**	http://www.ti.com/product/ISO7740
ISO776x	SLLSER1G	**SLLSER1H**	http://www.ti.com/product/ISO7760

Reason for Change:

Supply Continuity

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

Impact on Environmental Ratings

Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.

RoHS	REACH	Green Status	IEC 62474
☒ No Change	☒ No Change	☒ No Change	☒ No Change

Changes to product identification resulting from this PCN:

Fab/Probe Site Information:

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
MIHO8	MH8	JPN	Ibaraki
DMOS5	DM5	USA	Dallas
RFAB	**RFB**	**USA**	**Richardson**

Die Rev:

Current	**New**
Die Rev [2P]	**Die Rev [2P]**
A	**A**

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TI Taiwan	TAI	TWN	Chung Ho, New Taipei City
TI Malaysia	**MLA**	**MYS**	**Kuala Lumpur**

Sample product shipping label (not actual product label):

Product Affected:

ISO7730DBQR	ISO7741DBQR	ISO7761DBQR
ISO7730FDBQR	ISO7741FDBQR	ISO7761FDBQR
ISO7731DBQR	ISO7742DBQR	ISO7762DBQR
ISO7731FDBQR	ISO7742FDBQR	ISO7762FDBQR
ISO7740DBQR	ISO7760DBQR	ISO7763DBQR
ISO7740FDBQR	ISO7760FDBQR	ISO7763FDBQR

Qualification Report

Automotive Qualification Summary

(As per AEC-Q100 Rev. J and JEDEC Guidelines)

Approve Date 12-November-2024

Product Attributes

Attributes	Qual Device: ISO7763QDBQRQ1	QBS Process Reference: UCC23513QDWYQ1	QBS Package Reference: TPD3S714QDBQRQ1	QBS Product Reference: ISO7763QDWRQ1	QBS Package Reference: ISO7241CQDWRQ1
Automotive Grade Level	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1
Operating Temp Range (C)	-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 125
Product Function	Interface	Power Management	Interface	Interface	Interface
Wafer Fab Supplier	RFAB, RFAB	RFAB, RFAB	DP1DM5	RFAB, RFAB	RFAB, MH8, RFAB
Assembly Site	MLA	TAI	MLA	MLA	MLA
Package Group	SSOP	SOIC	SSOP	SOIC	SOIC
Package Designator	DBQ	DWY	DBQ	DW	DW
Pin Count	16	6	16	16	16

QBS: Qual By Similarity, also known as Generic Data
Qual Device ISO7763QDBQRQ1 is qualified at MSL2 260C

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: ISO7763QDBQRQ1	QBS Process Reference: UCC23513QDWYQ1	QBS Package Reference: TPD3S714QDBQRQ1	QBS Product Reference: ISO7763QDWRQ1	QBS Package Reference: ISO7241CQDWRQ1
Test Group A - Accelerated Environment Stress Tests												
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL2 260C	-	3/0/0	3/0/0	3/0/0	-	3/0/0
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	-	-	1/77/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Autoclave	121C/15psig	96 Hours	3/231/0	3/231/0	3/231/0	-	1/77/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	3/231/0	3/231/0	-	-	1/77/0
TC-BP	A4	MIL-STD883 Method 2011	1	5	Post Temp Cycle Bond Pull	-	-	1/5/0	-	-	-	1/5/0
TC-SAM	A4	-	3	3	Post TC SAM	<50% delamination	-	-	-	-	1/12/0	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	1/45/0
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	175C	500 Hours	-	3/135/0	-	-	-
Test Group B - Accelerated Lifetime Simulation Tests												
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	125C	1000 Hours	-	3/231/0	-	-	-
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	150C	408 Hours	-	-	3/231/0	-	-
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	125C	48 Hours	-	3/2400/0	-	-	-
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	150C	24 Hours	-	-	3/2400/0	-	-
Test Group C - Package Assembly Integrity Tests												

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: ISO7763QDBQRQ1	QBS Process Reference: UCC23513QDWYQ1	QBS Package Reference: TPD3S714QDBQRQ1	QBS Product Reference: ISO7763QDWRQ1	QBS Package Reference: ISO7241CQDWRQ1
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	3/90/0	3/90/0	3/90/0	1/30/0	3/90/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	3/90/0	3/90/0	-	1/30/0	3/90/0
SD	C3	JEDEC J-STD-002	1	15	PB Solderability	>95% Lead Coverage	-	-	1/15/0	3/45/0	-	-
SD	C3	JEDEC J-STD-002	1	15	PB-Free Solderability	>95% Lead Coverage	-	-	1/15/0	3/45/0	-	1/15/0
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	3/30/0	3/30/0	3/30/0	1/10/0	3/30/0
Test Group D - Die Fabrication Reliability Tests												
EM	D1	JESD61	-	-	Electromigration	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
TDDB	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
HCI	D3	JESD60 & 28	-	-	Hot Carrier Injection	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
BTI	D4	-	-	-	Bias Temperature Instability	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
SM	D5	-	-	-	Stress Migration	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
Test Group E - Electrical Verification Tests												
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	2000 Volts	1/3/0	1/3/0	-	1/3/0	1/3/0
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	4000 Volts	-	-	3/9/0	-	-
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	1500 Volts	-	-	3/9/0	-	-
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	500 Volts	1/3/0	1/3/0	-	1/3/0	1/3/0
LU	E4	AEC Q100-004	1	3	Latch-Up	Per AEC Q100-004	-	-	1/6/0	3/18/0	1/6/0	1/3/0
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	1/30/0	3/90/0	3/90/0	1/30/0	3/90/0

Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles
Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40C to +150C
Grade 1 (or Q): -40C to +125C
Grade 2 (or T): -40C to +105C
Grade 3 (or I) : -40C to +85C
E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):
Room/Hot/Cold : HTOL, ED
Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
Room : AC/uHAST
Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

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